DOCUMENT RESUME

ED 276 090 EA 018 236

AUTHOR Wholeben, Brent Edward
TITLE Legal Liabilities and Professional Ethics Associated with the Use of Computerized Administrative and Instructional Technology in Education.
PUB DATE 12 Apr 84
NOTE 26p.
PUB TYPE Viewpoints (120) -- Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Administrator Role; Check Lists; *Computers; *Computer Uses in Education; Definitions; Elementary Secondary Education; *Ethics; Inservice Teacher Education; *Legal Responsibility; Management Development; Policy Formation; School Law; School Policy; Social Influences; Teacher Education; Teacher Role

ABSTRACT

The increasing availability and the highly variable quality of computer hardware and software make it imperative that school professionals become acquainted with issues of legal liability and professional ethics regarding the use of computers in education. This document explores problems associated with the lack of proper training of school professionals and suggests ways to minimize the potential for such problems. The document begins by defining liability, its three basic categories (nonfeasance, misfeasance, and malfeasance), and seven points of law that apply to personal injury or complaint liabilities. The document then lists (1) eight environmental influences on public and private educational policymaking that are hampering the adequate and appropriate use of computers in education and (2) six misdirected uses of computers in the classroom. Next, the document considers nine general areas (case topics) of legal liability, gives examples of the kinds of computer misuse that could fall under each category, and shows how schools might be held liable for certain transgressions. The document then provides an 18-point checklist of activities for teachers and administrators to use in avoiding liability problems and concludes by arguing for more adequate and appropriate teacher and administrator training. (IW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED276090

LEGAL LIABILITIES AND PROFESSIONAL ETHICS ASSOCIATED WITH THE USE OF COMPUTERIZED ADMINISTRATIVE AND INSTRUCTIONAL TECHNOLOGY IN EDUCATION

Brent Edward Wholeben, Ph.D., E.M.T., Associate Professor
Department of Educational Administration and Supervision
The University of Texas at El Paso (El Paso, Texas 79968)

Abstract

The emerging role of computers in education, for assisting both administrative as well as classroom instructional needs, continues to provide one of the most phenomenal catalysts to public and private education since the invention of the printing press. The advance of this technology proceeds for the most part unimpeded, and oftentimes uncontrolled. The proliferation of hardware and software, and the gradual decline in purchase price, makes the possibility of computerized equipment and materials available to fit anyone's pocketbook. However, the problem of the highly variable quality of this hardware and software also provides a source of problems in terms of the fulfillment of individual needs. These circumstances of (1) uncontrolled growth and (2) highly variable quality now present new dilemma which must be addressed by educational professionals -- the legal liabilities of the school which makes such technology available, and those issues of professional ethics which are a part of using this technology.

(151 words)

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Brent Edward Wholeben

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EA 018 236

LEGAL LIABILITIES AND PROFESSIONAL ETHICS ASSOCIATED WITH THE USE OF COMPUTERIZED ADMINISTRATIVE AND INSTRUCTIONAL TECHNOLOGY IN EDUCATION

Brent Edward Wholeben, Ph.D., E.M.T., Associate Professor
Department of Educational Administration and Supervision
The University of Texas at El Paso (El Paso, Texas 79968)

(April 12, 1984)

INTRODUCTION

Not since the introduction of Guttenburg's printing press have the prospects for optimizing American public and private educational objectives been so near as is currently true because of educational computers in the school office and classroom. The potential of these computers, for example, to (1) individualize and personalize the instruction of each child, (2) keep track of each student's progress during learning so that potential problems can be recognized and diagnosed instantaneously, and (3) perform many menial and time-consuming administrative functions of campus professionals so that they can spend their limited time performing other more important and professionally-related duties -- is potentially limitless in the hands of the properly and appropriately trained professional.

The emerging role of computers in education, for assisting both administrative as well as classroom instructional needs, continues to provide a phenomenal catalyst to public and private education. The advance of this technology proceeds for the most part unimpeded, and oftentimes uncontrolled. The proliferation of hardware and software, and the gradual decline in purchase price, makes the possibility of computerized equipment and materials available to fit anyone's pocketbook. However, the problem of the highly variable quality of this hardware and software also provides a source of problems in terms of the

fulfillment of individual needs. These circumstances of (1) uncontrolled growth and (2) highly variable quality now present new dilemma which must be addressed by educational professionals -- the legal liabilities of the school which makes such technology available, and those issues of professional ethics which are a part of using this technology.

The use of computer technology in the schools presents an environment wherein such liability issues of those related to property, partnership and insurance liability play increasingly important roles. An expanded definition of 'personal injury' to the student in terms of 'lost learning' provides an interesting link to tort liability as well. For the school office, property security and privacy liabilities are major legal issues in terms of data base management and their associated information management systems. A more visible issue of liability is that related to copyright (or patent) liability when software is copied by the user for other than single-unit backup reasons.

Moreover, serious problems can and do arise when such powerful technology is place in the hands of the illiterate, untrained professional. The problems associated with the lack of proper training, the resulting misunderstanding on the part of school professionals, and the serious conditions which this lack of an adequate knowledge base fosters, will be explored in this paper. Specifically, what are the seven issues of liability which pertain to the use of computer technology in the schools, how might the school be held liable for certain transgressions, and what can be done to minimize the potential for such problems?

LIABILITY

We are all, obviously, liable for our actions as professionals, regardless of our profession or vocation. Liability assumes that there exists a 'duty to act' -- both in terms of a need to perform some required function, as well as a requirement that some particular professional person meet such a need. Legally speaking, the failure to perform such a required duty falls into one of three categories:

1. nonfeasance - the failure to perform a required duty or action (i.e. inactivity);

2. misfeasance - the improper doing of an otherwise proper act (i.e. misdirected activity);

3. malfeasance - the doing of an illegal act (i.e. premeditated wrongful activity).

Established legal statutes and other components of case law are quite specific as to the various (seven in all) points of laws which apply to liability which results in some form of personal injury or complaint:

1. duty of care - based upon obligation, whether contractual or service

2. standard of care - generally acceptable standards or guidelines

3. reasonableness and prudence - the reasonable and prudent professional (not layperson)

4. feasance - recognized ability to perform as expected (e.g. as previously trained)

5. substance of personal injury - that denied because of failure to perform

6. proximate cause - cause-effect connection between conduct and injury

7. culpability - responsibility of the injured party to foresee problems.

The most difficult of these points for the plantiff to establish as evidence in any law suit regarding instructional policy and the implementation of such policy in education (as defendant) are the (1) substance of the personal injury (viz. something otherwise reasonably expected has been denied) and (2) culpability of the plantiff (viz. the plantiff was totally incapable of foreseeing any negative consequences related to the liable actions in question). State laws regarding mandatory attendance, non-discriminatory education, and the provision for teaching training as a certification standard (in most states, anyway) allow (1) duty of care, (2) standard of care, (3) reasonableness and prudence, and the issue of (4) feasance to be easily established during any litigation hearing. Concerning the use of computers in education, either for instruction in the classroom or the administration of the policies of the campus and district, the remaining item of evidentiary source, proximate cause, is the singularly importance connection between the complaint of the plantiff and the use of computers which must be established.

FORERUNNERS OF LIABLE FEASANCE FOR SCHOOLS WHO EMPLOY EDUCATIONAL COMPUTERS

Potential liability will always surround those types of activities which have at least four things in common: (1) the activities were developed in the absence of clearly understood needs; (2) the activities were not well defined in advance of their actual application, and probably not prototypically evaluated in a pilot first; (3) specific formative and summative evaluation criteria were not defined in advance of program inauguration; and, (4) an individual validation of actual impact of the program was not reliably performed.

Several happenings which have significant influence on public and private educational policy making, or which tend to mitigate or extenuate education's response to new policy needs today, might slow the school's advance to lessening its liability with the use of educational computers. What are these environmental precedents which confound a more positive response from schools towards the need to properly implement an educational computing program?

At least eight (8) such environmental precedents can be identified which will continue to hamper not only the effective and efficient introduction of computer technology within today's public and private elementary and secondary schools, but will also subvert that technology's adequate and appropriate use:

[1] ELEMENTARY/SECONDARY EDUCATION --

(Enrollment declines have led to a decrease in available monies; At the same time, a nation-wide achievement decline has prompted educational leaders to a renewed 'back-to-basics' movement and a further illusion that computers are for the gifted alone.)

[2] POST-SECONDARY EDUCATION --

(A traditional failure to strategically cope in a timely fashion with the ever changing demands of a dynamic society, coupled with continued declining enrollments and fiscal allocation, have led many of today's community colleges and 4-year colleges and universities to declare financial exigency and concentrate upon more traditional programs of study and suspend the introduction of innovative curricula related to computer applications.)

[3] RESEARCH FOUNDATIONS --

(External funding sources have been slow to provide seed monies for the research and incorporation of computers into the classroom; Such reluctance to take a commanding lead has been influenced by proprietary and political interests which exist in most private foundations, and by the reluctance on the part of education itself to demonstrate a strength of conviction and purpose for the use of computers in educational environment.)

[4] MAJOR PUBLISHERS --

(Reactive rather than proactive in terms of literary production, publishing companies have traditionally been late starters in terms of providing a lead in the production and diffusion of new knowledge and/or techniques.)

[5] BOOK EDITORS --

(Often non-literate regarding the technology of computers and

their educational uses, and furthermore profit/trade conscious of what the general (reading) public is willing to read and therefore purchase, much of the present on-the-rack publications have done little to adequately and appropriately influence the educational consumption of computer technology.)

[6] METHODS/MATERIALS EVALUATIONS --

(As with many other aspects of emerging theory and practice, the proper a priori assessment of the validity and reliability of various alternate techniques is either non-existent, inconclusive or unreliable.)

[7] PRACTITIONERS OF EDUCATIONAL TECHNOLOGY --

(Many users are non-technological (portraying a present inability to understand how the technology might and should be applied) and/or non-technical (unable to understand how the technology works to produce its effects); Such individuals are the basic reason why formal training must be administered prior to their use of computers in the educational milieu.)

[8] VENDORS OF HARDWARE EQUIPMENT AND SOFTWARE MATERIALS --

(Unfortunately, the providers of computer hardware and software -- especially in the case of instructional courseware -- are inexperienced in educational philosophy and instructional strategy, and therefore provide little direction to the classroom teacher and educational administrator who wishes to find the best possible

hardware and software system for school use.)

However, this is not to say that the schools are not, themselves, at fault in the current misdirected use of instructional computers. In fact, many of the presumed misuses and abuses of computers in the classroom could have been precluded by teachers and administrators who might have applied their previous non-computer related training, especially training in such areas as strategic planning and performance evaluation. Unfortunately, many elementary and secondary school campuses still begin their use of instructional computing methods as follows:

1. hardware is purchased with the main intent of securing a large number of units for minimal cost; and where quantity is often considered more important than quality.

2. software and courseware are identified after the hardware is acquired, limiting the diversity in selection of courseware components possible.

3. classroom teachers receive little or no specific training as to how to modify their curriculum teaching plans to best utilize the computer as a teaching device.

4. student computer use and achievement progress are not as tightly monitored as might be true for a teacher-directed learning process.

5. software quality varies as widely as their source, with few teachers qualified to evaluate the potential of a particular courseware package to fulfill its directed teaching mission.

6. instructional computing is picking up where workbooks and problem exercise worksheets left off -- time-expending and student control tools.

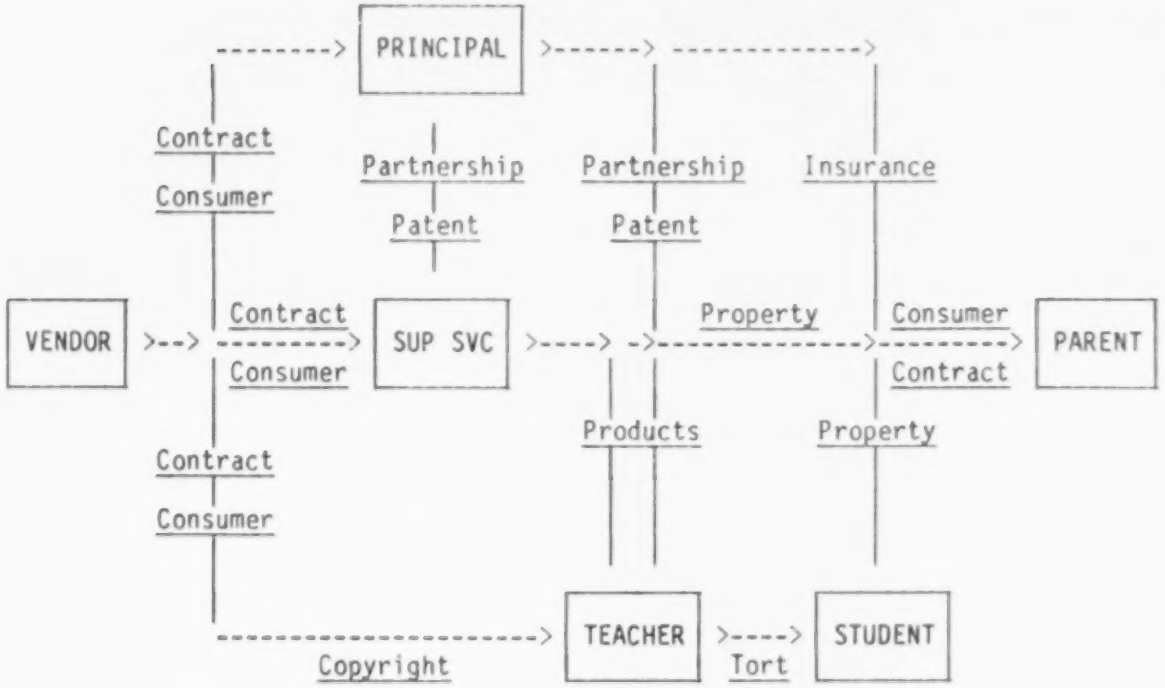
The effects of such unfounded policies and practices are predictable, and can be observed in many schools. These effects include, but are certainly not limited to: (1) greatly underutilized administrative and instructional computing workstations, (2) use of inappropriate courseware based upon demonstrated need, and with (3) inadequate teacher practice, (4) an often dysfunctional supervision and control by the teacher of the instructional computing process, (5) a high incidence but variety of nondirective teacher inservices, and thus (6) gradually developing environments of low tolerance and high frustration.

HOW DOES LEGAL LIABILITY RELATE TO SCHOOL COMPUTERS?

First of all, we should attempt to establish what personal injury represents in terms of law and professional, as well as personal, conduct. Generally, injury can be thought of as a deprivation of some reasonably expected good or reward. This will of course cover more than physical injury, and include such areas as financial loss, loss of future opportunity for some related reward, or possibly even the preclusion of future recognition and esteem. A more strict definition is hard to achieve, since reward to one person is insignificant achievement to another individual.

Consider the nine (9) general areas (case topics) of legal liability which are defined by the American legal system, and their functional relationships with the current configuration of American public and private education (see following figure). Each of these liability areas provide a fertile environment for the unjustified deprivation of some reasonably expected good.

FOCI OF EDUCATIONAL COMPUTING LIABILITY: THE STATUTE PERSPECTIVE
(Figure)



Consumer Liability. Students, parents and other taxpayers are consumers of the educational enterprise. Students are remitted mandatorily to the schools and compelled to attend on a regular basis. Parents must assure this attendance or face the prospects of social services intervention. Taxpayers must provide

the fiscal basis for public education, whether they are direct consumers of not, or face the loss of their own real property and possible fines and/or detention. In the specified time period of an academic year, some nine months or approximately 1500 contact hours of instruction, the schools must satisfy their consumer commitment of discipline teaching and student learning. Since all American education is departmentalized and sequential (i.e. grade to grade, or subject to subject), inadequate progress at any step in the learning process jeapordizes subsequent potential learning. Illustration: Inappropriate application of computer assisted instructional CAI equipment (hardware), materials (courseware), and/or procedures (teaching methods) result in the waste of limited teaching time for the student user.

Contract Liability. All teaching, supervisory and administrative faculty and staff issue their services based upon employment contracts. Teaching personnel are especially visible in their performance of contract requirements since they must supply the required yearly instruction according to outlined curricular syllabus, and provide the necessary prerequisite training which will be necessary for the student to attempt subsequent years' instruction and training. Inadequate teaching techniques and processes, and inappropriate learning based upon these or other techniques, jeapordize the potential for the student to negotiate later learning endeavors. Illustration: materials to match and satisfy the established instructional needs and objectives of the particular course.

Insurance Liability. Insurance, or the management of risk, is usually associated with physical danger and the protection of material resources from

various hazards. The emphasis upon risk management is also concerned with being able to reestablish material property in the event of loss, or in the case of compensation provide for a trade of materials commensurate to the loss endured. Illustration: Most microcomputers and their peripheral hardware equipment provide relatively easy access to the electrical power train, contact with which might result in electrical shock.

Partnership Liability. Teachers as employees and educational administrators as employers are partners in the sense that they cooperatively direct the day-to-day functioning of the school building and campus. Teachers are liable for the performance of their duties in accordance with administrators directives and requirements, and administrators are liable for assuring the adequate compliance of classroom activities to district and board-mandated requirements. Illustration: Teachers who develop personalized courseware during their preparation time, and subsequently make such materials available to other practitioners under proprietary interest may owe royalities to the school; On the other hand, damages ascribe to the use of such software might involve the school as co-defendant in the case of a legal suit.

Patent or Copyright Liability. The design, preparation and development of new materials which will directly influence a user's functioning are often followed by the developer's attempt to secure unshared recognition as sole owner of such new materials. Patents and copyrights are applied to inanimate development (i.e. an idea) as well as the more typical animate product (i.e. a machine). Individuals seeking such sole ownership status must demonstrate that

the contribution is distinct, singular and personal. Illustration: Classroom teachers utilizing sophisticated security-decoding software packages which provide for intentional copying of copyrighted diskette programs.

Property Liability. Property is defined as an individual's undisputable ownership of an animate or inanimate substance which can be proven beyond doubt. The permited use of one person's property by another carries the usual proviso that the user will provide reasonable and prudent care of the property (e.g. equipment and materials) in question, in addition to applying the property in the manner expected by its designer. Proper use and maintenance all fall under the requirements of a person's property interests. Illustration: Inadequate maintenance and first echelon service supervision of hardware and software, resulting in damage and loss is an obvious case in point. Not so obvious is the teacher who utilizes the school's computers to foster personal business or other proprietary interests in the market place.

Property Security Liability. In some cases, an item of property might be assigned temporarily to another individual for the latter person's temporary use. This is especially true of personal information which is collected for the latter person's discretional use, but where confidentiality or anonymity of the former person is guaranteed as a property right. Illustration: Unprivileged access to student and other personnel records by individuals who have access to the proper security codes and storage media.

Product Liability. Education produces products both animate as well as inanimate. In the narrow sense, the product of education is the trained student.

In the more general sense, the products of education may represent learning as cognitive, affective and psychomotoric knowledge acquisition, or as the actual techniques, processes and procedures which influence such learning. Liability for the product as well as the process which determines the product must be recognized. Illustration: Computerized teaching processes have the ability to produce certain correlative learning which may be either desirable or undesirable.

Tort Liability. Tort refers to personal injury produced by some action (or inaction) which fails to fulfill a required duty (especially by a public official or professional). Personal injury is most often refered to as physical harm or fiscal deprivation attributed to some act on the part of the defendant. Personal injury can also be defined as preclusion of some 'future good' which can be attributed to a 'wrong' action on the part of the defendant. Illustration: Precluded attainance of some future good or reward based upon loss of skills directed related to inappropriate and/or inadequate computerized learning intervention.

WHAT IS THE MOST PERVASIVE ISSUE TODAY?

Schools continue to fail to address the most pervasive issue concerning instructional computing today -- that of adequate and appropriate classroom teacher training.

Teaching training agencies -- colleges and universities, and state agencies of public education -- often are unable or unwilling to provide for appropriate

beginning teacher training in instructional computer literacy and methods. School districts do not provide the necessary inservice activities. Individual schools are left on their own to fend as best they can. However, microcomputers still continue to proliferate on the elementary and secondary campuses. Are they strictly controlled and monitored? Does anyone really understand how to apply instructional computing to the learning process? Is such recognition a priority issue in public education today?

Allow me to draw an intentionally overstated, dramatic picture of what could be a demonstrative legal liability issue in the future iff education does not begin to address the seriousness of the use of computers in the school.

Substance of personal injury. Can the student demonstrate that a priori expected achievement was denied as a result as inadequate learning via CAI? Such denied achievement might be defined as loss of scholarship, inability to proceed into the next higher-level curricular course due to inadequate skills, and/or the loss of ability to attain admittance to some organization or institution due to low achievement and/or entrance examination scores (e.g. college entrance). In this regard, personal injury should not be confused with claims of personal or psychological anguish as a concurrent result of alleged failure to perform as expected.

Duty of care. Can the student demonstrate that the school represents the interests of the state regarding the operationalization of the state mandate to provide mandatory instruction? That is, can the school be held responsible for providing services which it has been empowered to provide by legal obligation to

the state? Furthermore, can the student show that the school recognizes the need for a duty of care, by demonstrating the school's requirement(s) for certification standards on the part of all classroom personnel?

Standard of care. Can the student demonstrate that because of his or her age and mental capability, the physical condition of the classroom, and the environment, the standards imposed upon the use of CAI were inadequate for operationalization of its use in the classroom? Can the student further show that knowledge of such deficiencies was a reasonable expectation of deficiency for perceived liability on the part of the school?

Reasonableness and prudence. With regard to teachers, the generally accepted standard of care would be that of a reasonably prudent teacher, not that of a reasonably, prudent layperson. Can the student demonstrate that the teacher did not do all things that were both reasonable and prudent in determining the use of computer-assisted activities within the classroom instructional environment? Can the student further show that in determining similar learning activities for CAI presentation as opposed to 'normal' presentation, the teacher did not employ reasonable and prudent standards of evaluation that should have been expected?

Proximate Cause. Can the student demonstrate that CAI as an action produced an event, and therefore without which, the event could not have happened; and that furthermore, this event is responsible for the occurrence of personal injury? Proximate or legal cause is the sequential connection between the individual's negligent conduct and the resulting injury to another person.

Feasance. As performance of a condition or duty, can the student demonstrate that there was failure to act (i.e. nonfeasance), good intentions but conduct falling below an established standard (i.e. misfeasance), or deliberate injury (i.e. malfeasance)?

Culpability. And finally, can the student demonstrate that it was not reasonable to expect the student to recognize in advance the potential shortcomings of the inadequate CAI system in use? and therefore, the potential harmful effects which might be visited upon the student's future?

OTHER COMMON ISSUES OF INCREASING LEGAL LIABILITY INTEREST

A number of potential sources of personal and property rights violations, and resulting personal and professional liabilities attributable to the use of computers in the schools -- in addition to that of the computer as an instructional tool -- can also be identified. Most of these additional liability issues have only been recognized within the last several months due to the recognition of their underlying problems.

Organized with content-related clusters, these other areas of interest (including those related to instructional computing per se') are:

Policy Directives and Their Applications

1.0 evaluation of potential contribution and benefit

2.0 validation of application and learning impact

3.0 assessment of curricular-related instructional methods

4.0 monitoring of student progress

5.0 training of personnel

6.0 collateral rights enfringement (teacher v. student)

7.0 personal privacy v. freedom of information

8.0 security and protection of individual rights

Supervision and Control

1.0 data access security

2.0 individual privacy rights

3.0 software copyright enfringement

4.0 shared property rights

5.0 developed product liability

6.0 educational consumer protection

Special Considerations

1.0 discrimination and bias (cultural, gender, etc.)

2.0 physiological complications and medical cautions

3.0 cognitive formation and psychological concerns

4.0 psychomotoric functioning development

5.0 emotional development

While schools recognize the importance of protecting against occasions of software privacy and data access by non-privileged individuals, few are as concerned with those problems associated with the inadequate or inappropriate use of the computer as an instructional tool. Especially noteworthy are such instances as (1) no courseware evaluation prior to use, or thereafter, (1) a lack of specialized training of personnel prior to the computer's use in the

classroom, and (3) the secondary cognitive learning aspects which may be found in many of the software packages. How then might a school evaluate its preponderance towards potential liability in the future?

THE CHECKLIST OF LIABILITY POTENTIAL FOR SCHOOL COMPUTER USE

Educational administrators and classroom teachers need to predict potential areas of difficulties which might arise from the use of computers in schools, and thereby minimize any problems which might result from the use of computers as either administrative or instructional tools. To assist this effort as well as point out the 18 activities which are recommended for study by the school professional, the following checklist should be followed.

Assessment of A Priori Needs

- ☐ Has a comprehensive, accurate assessment of curriculum and student needs been accomplished?
- ☐ Do the results of this assessment direct the development of the plan for the use of computers in the school?
- ☐ Can specific needs be cross-related to planned computer intervention strategies?
- ☐ Have these needs been denoted as priority areas of interest for the school?

Evaluation of Potential Application

- ☐ Have a number of alternative options been formulated in terms of satisfying the needs defined in the needs assessment?
- ☐ Does the chosen option best fit the demonstrated needs of the school?
- ☐ Are adequate and appropriate resources available for executing this option?

- ☐ Has a specific plan of intervention been formulated, and the necessary personnel notified and trained?
- ☐ Have prototype applications been prepared, piloted and/or discussed, and evaluated for their potential validity and reliability?

Protection of Individual Rights, Privacy and Interests

- ☐ Will appropriate supervision and control be exercised over both the student and/or teacher user in accordance with established human subjects review procedures?
- ☐ Is is feasible to guarantee (1) the protection of all human rights, (2) the privacy concerning individual data for each of the student users, and (3) freedom from discrimination on the basis of race, origin, creed or other personal beliefs?

Prevention of Physical, Mental or Emotional Harm

- ☐ Will the application provide hazardous risk to the user?
- ☐ Are these hazards physiological or psychological in nature?
- ☐ Can such risk, if present, be minimized?
- ☐ Will secondary learning components exist which might promote undesirable elements of psycho-social development, maturation, or role-model emulation?

Validation of Impact Related to the Actual Application

- ☐ Can the use of the equipment and materials, and the specific procedures which direct their use, be adequately and accurately monitored?
- ☐ At what point will the application be abandoned if results are not as expected?
- ☐ What criteria will be utilized to measure the extent of gain (i.e. satisfied need) which the application provides?

The above checklist can serve as both guide as well as advance notice for areas of potential difficulty related to the use of computers in the school. At

the very least, these 18 areas of concern will alert the educational professional to the activities which must be understood if potential problems are to be minimized as much as possible.

REASONABLE AND PRUDENT RESPONSES: TEACHER AND ADMINISTRATOR TRAINING

Simply stated:

> If schools are to enjoy all of the potential benefits from the adequate and appropriate use of computers in the classroom and administrative office (i.e. approach the positive), and deter the many inadequate and inappropriate uses which may result in legal liabilities (i.e. avoid the negative), then ... valid, reliable and comprehensive teacher training must be available, mandatory, and prioritized.

This training must exist at both the university level in the form of undergraduate teacher preparation courses in computer-assisted instructional methods, and at the district and building level in the form of teacher inservice activities. Not only must the proper hardware and courseware be acquired for the instructional mission at hand, but the teacher must be specifically instructed in its appropriate application for student learning.

Teacher must be instructed in such areas as:

[1] what computer-assisted and computer-managed instruction are; and how they should be applied and deployed for the teaching of the various disciplines and curricula;

[2] how to develop computer-based instructional methods and their lesson plans; and how to utilize such plans in consort with other classroom-based, non-computer-assisted approaches;

[3] how to structure needs assessments related to the potential for computer-assisted techniques; and how to reformulate these needs into strategic and tactical action plans;

[4] how to evaluate various hardware systems and CAI courseware packages for their potential in satisfying stated needs and instructional objectives;

[5] how to monitor such computer-based, instructional guidance systems as students interact with them on a day-to-day basis;

[6] how to assure that the computer-assisted instructional system is working properly and producing desired results (i.e. validation), or failing to perform as expected and thereby hindering student learning progress; and,

[7] how to provide assistance to other teachers who wish to begin some amount of computer-assistance in their teaching areas.

School administrators must exercise their obligation to supervise and control the use of this newest teaching tool, and assure the preservation of each student's rights as well as the integrity of the teaching process. The computer, like the student, teacher, and other teaching-assist methods in the

classroom, must cooperate in the teaching of the child, and reliably assist in their learning.

District, building and program administrators must recognize the priority of instructional computing literacy and inservice training (but not just in terms of simple computer literacy). Instructional computing inservice(s) must be viewed as important as those in bi-lingual and multi-cultural instruction; and as necessary as those in education for the learning and physically disabled. If computer-assisted techniques are to reap those advantages promised by their builders, then adequate equipment, materials, facilities and time must also be available, in addition to this highly specialized training.

Therefore, some directives for the future are in order:

[1] Each elementary-secondary feeder network must have established multidisciplinary evaluation teams to guide the use of computers as instructional tools;

[2] Structured (written) guidelines must be available to each current and potential user of educational (administrative as well as instructional) computing in order to guide initial development;

[3] Inservice training must be timely, informative, and to the point of the specific application intended;

[4] Better communication linkages must exist between the public and private K-12 educational sectors and local universities;

[5] Undergraduate teacher education (preparation) programs must have instructional computing methods as a mandatory offering;

[6] Strict validation guidelines (including formative and summative indices) must be maintained to supervise and control the instructional computing environment;

[7] Each district must have a multidisciplinary hardware and software acquisition team to guide all computer-oriented purchases; and,

[8] All state education units must provide for earlier computer literacy intervention in the primary schools, in an approved and structured manner and with the provisions for longitudinal use of the computer throughout the student's elementary and secondary career.

Like any tool, the school computer must be correctly applied to the right situations, at the right time, and by the right person. Only appropriate training can assure these matched applications. In my estimation, the computer provides the first, real basis for attending to the personalized needs of the well as a negative deterrent to many of the non-professional actions existing today.

Let us not ignore the potential of this opportunity.